Risk-related disclosure practices in the annual reports of Portuguese credit institutions: an exploratory study

This study assesses the risk-related reporting practices of 190 Portuguese credit institutions based on a content analysis of their individual annual reports for 2006. Risk-related disclosures are found to be deficient in terms of comparability because they use different maturity time bands to report exposures to credit, market and liquidity risks; different VaR and sensitivity analysis assumptions; and different practices for reporting capital structure and adequacy. Relevance, reliability and understandability problems arose too from the mis-alignment of quantitatively-based disclosures and related narratives.

We assess the extent to which reforms of risk-related reporting practices in 2007 in International Financial Reporting Standards and the BASEL II Accord address each of the deficiencies identified. We highlight areas in need of further reform and recommend that Portuguese supervisory authorities adopt more effective enforcement mechanisms to broker compliance with minimum mandatory risk disclosure requirements.

KEY WORDS: Financial, reporting, disclosure, risk, management, content, Portugal.

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INTRODUCTION

Since the global financial crisis [GFC] of 2008, the quality of risk-related disclosures in the banking sector has become a matter of close scrutiny, especially by investors and regulators. Even before the GFC, the inadequacies of risk-related disclosures in annual reports had been a matter of public debate. Woods,[1] for example, drew attention to variations in the level and usefulness of risk-related information disclosed by companies and the difficulties involved in capturing risk exposures of companies. In 2008, the Financial Stability Forum (FSF) emphasised that the banking sector often failed to disclose the magnitude of risk associated with their products clearly in an easily accessible way.[2] According to Heap,[3] this "led to […] a failure in confidence" in the financial system.

Although new breadth has been brought to risk reporting practices by International Financial Reporting Standard (IFRS) 7 (Financial Instruments: Disclosures), a lack of transparency in the risk reporting disclosures of banks has been found in periods *prior* to the adoption of IFRS 7,[4-16] and in studies *after* the adoption of IFRS 7.[17-21]

However, the representativeness of the results of these studies can be questioned on three major grounds. First, the small size of the samples used. Second, because banks are only a small part of the banking sector. We address this by analysing 190 credit institutions [PCIs], including banks. And third, because the use of market-based measures (such as market capitalization) are an inappropriate mean of ranking banks by size — they incorporate "investors' viewpoints on company performance, thus ignoring other stakeholder groups".[22]

Stakeholder power can be proxied by the public visibility of an entity. Greater public visibility implies a greater need to heed stakeholders' expectations.[22] In Portugal,

banks have a high degree of public visibility. Since 2006, the number of branches of credit institutions per 100,000 inhabitants has been almost three times greater than in European Common Law countries (UK, Ireland and Netherlands). Among the European Latin countries Portugal has registered the highest growth rate in the number of branches of banks.[23]

The present study focuses on the usefulness of disclosures about mandatory and voluntary risk-related information in the individual annual reports for 2006 of 190 *finance* companies (not only banks) registered by the Portuguese Central Bank. The four qualitative characteristics of financial statements, enunciated in the International Accounting Standards Board's conceptual framework for accounting, are used to assess usefulness: *relevance*, *reliability*, *understandability* and *comparability*.[24]

Despite focusing on risk-related disclosures *before* the adoption of IFRS 7, the present study also analyses operational risk-related disclosures and capital structure and adequacy disclosures, and levels of adherence to Basel II (Pillar III) requirements. Thus, the present study yields an exhaustive view of risk-related reporting disclosures practices in Portugal.

Results reveal that the adoption of IFRS led to greater amounts of risk-related information being disclosed compared to that required by the Portuguese Accounting Plan for the Banking Sector [PAPBS]. Transparency across companies was impaired by comparability difficulties, by inability to understand narratives, and by the failure of narratives to explain numerical disclosures. The resulting imprecision, vagueness and misleading statements rendered readers susceptible to multiple interpretations. Additionally, the results also reveal sub-optimal levels of mandatory risk-related disclosure in annual reports. The pre-GFC period transparency problems in Portuguese

financial institutions were essentially the same as those detected in Anglo-Saxon studies.[4,6,8-11,16]

The sub-optimal levels of mandatory risk-related information found in this study, and in studies *before* and *after* the adoption of IFRS 7, suggest that the recent Basel II Accord reforms, FSF recommendations, and IFRS 7 amendments would only lead to "socially desirable" flow of information if an appropriate enforcement mechanism assured compliance with minimum disclosure requirements.

In Section 2 we develop an analytical framework and briefly contextualise the regulatory setting in Portugal. Section 3 explains our research method and describes the sample. Section 4 reports the main results. Section 5 presents conclusions and recommendations.

ANALYTICAL FRAMEWORK

Regulatory background

PCIs are supervised by accounting rules and reporting requirements issued by the Portuguese Central Bank. For listed companies, some risk-related corporate governance practice disclosures are required by the recommendations of the Portuguese Stock Exchange Committee (*Comissão do Mercado dos Valores Mobiliários*). (For example, Recommendation 3/2005 requires description of the existing internal control system). Additionally, Article 66 of the Portuguese Companies' Code (*Código das Sociedades Comerciais*) requires companies to disclose their main risks and uncertainties in the management report. Although Article 66 focuses on financial risks, it also requires (at least implicitly) disclosure of information about environmental risks, operational risks and risk management activities related to financial risks.

For financial years starting on January 1, 2005, Regulation 1606/2002 of the European Commission requires companies whose securities are traded on a regulated

market to prepare consolidated accounts in accord with IAS. From 2005, the Portuguese Central Bank supervised the application of that Regulation 1606/2002 in the banking sector. The accounting frame of reference from 2005 onwards was as follows:

a) In 2005, listed and non-listed companies (with an exception for Mutual Agricultural Credit banks [MACBs]) in a regulated market were required to adopt adjusted IAS/IFRS or Instruction 4/96 (PAPBS) in their individual accounts. After January, 2006, they were required to adopt adjusted IAS/IFRS in their individual accounts;

b) In 2005, MACBs were required to adopt Instruction 4/96 (PAPBS) in their individual accounts. In 2006, they were required to adopt Instruction 4/96 (PAPBS) or adjusted IAS/IFRS in their individual accounts. After January, 2007 they were required to adopt adjusted IAS/IFRS in their individual accounts.

Therefore, in reporting risk-related information in 2006, PCIs would have adopted adjusted IAS/IFRS in their individual accounts (with the exception of MACBs) and would have complied with the following standards:

- IAS 1 (Presentation of Financial Statements);[25]
- IAS 30 (Disclosures in the Financial Statements of Banks and Similar Financial Institutions);
- IAS 32 (Financial Instruments: Presentation);[26]
- IAS 39 (Financial Instruments: Recognition and Measurement);[27] and,
- IAS 37 (Provisions, Contingent Liabilities and Contingent Assets).

IFRS 7 (Financial Instruments: Disclosures) was only obligatory after January, 2007, although its adoption before 2007 was recommended.

Minimum disclosure requirements

Under the PAPBS there are very few disclosure requirements for risk matters. Those that exist relate to accounting policies (basically about impaired assets and provisions), credit risk (aging of assets according to maturity dates, details of impaired loans and advances), and liquidity risk (maturity analysis of current assets and liabilities). There is no requirement to disclose risk management information objectives, policies and control structure.

Under IAS/IFRS the risk-related disclosure requirements, described in Table 1, are more extensive and demanding.

(Insert Table 1 about here)

Although disclosures should be provided in the notes, it is also possible to find cross references in the management report, in accord with § B6 (IFRS 7). Narrative information about financial risk management objectives and policies should be presented in the notes in self-contained risk management sections (IAS 1.104-5). PCIs adopting either PASBS or IAS/IFRS have to disclose this kind of information in self-contained section of the management report, also as demanded by Article 66 of the Portuguese Companies' Code.

Literature review

Although the banking sector is under-researched in terms of risk disclosures in corporate annual reports,[14] studies have examined the importance of risk disclosure on the market discipline of risk taking in the banking industry. Findings of such studies confirm that greater disclosure enhances market discipline and that better risk management systems attract investors.[28-30] Market discipline is defined as the "actions of shareholders, creditors and counterparties of banking companies [stakeholders] that can influence the investment, operational and risk-taking decisions of bank managers".[8]

Due to the increasing complexity of financial activities pursued by banks, and consequently the inability to properly monitor and control financial companies, supervisory entities have relied on market discipline to assist in their oversight responsibility. "Market monitoring"[31] as a market discipline to limit banks' systemic risk is performed by unprotected creditors not covered by financial safety provisions.[32] The greater the level and quality of disclosure, the greater the ability of stakeholders to monitor and assess changes in bank condition and to incorporate those assessments promptly into a firm's security price if negative changes occur. This monitoring mechanism generates market signals that convey useful information to supervisors in acting to reduce a bank's risk exposure.[31] The economic rationale is that in a substantially more complex environment, information disclosure is socially desirable.[33]

The literature on risk-related disclosures by banks has shown that market discipline or the appropriate levels of supervisory oversight have been ineffective. To overcome this, standard setters have developed high quality standards to improve prior opaque disclosures, remedy their deficiencies, and enforce supervisory mechanisms (see Basel II, second Pillar).

Studies before and after the adoption of high quality standards have reported conflicting results regarding the effectiveness of those standards on risk management disclosures. PriceWaterhouseCoopers[12,21] found that the adoption of IAS/IFRS and IFRS 7 did not significantly affect the disclosure of risk management activities. However, Bischof[17] and Woods *et al.*[14] found the contrary. Some studies have also documented conflicting results in operational risk, and in market risk disclosures. The Basel Committee on Banking Supervision, from the Bank of International Settlements[34-36] and Helbok and Wagner[37] found increases in both extent and the depth of voluntary

operational risk disclosure. Avram and Skully[4] found increases in disclosure quality, but a stable level of disclosure quantity.

KPMG,[19,20] and PriceWaterhouseCoopers[21]reported that all surveyed banks disclosed information about VaR results. However, broader studies such as by Yong *et al.*[13] (146 Asian Pacific banks surveyed) and Bischof[17] (153 European banks surveyed) reveal different results: only a small number of banks disclosed VaR results before and after the adoption of IFRS 7.

Persistent risk-related disclosure deficiencies

The disclosure deficiencies reported *before* the adoption of IAS/IFRS and IFRS 7 persisted *after* the adoption of those standards. Woods and Marginson[16] and Woods *et al.*[14,15] found that disclosures lacked transparency, were insufficient from a user's perspective, and were not comparable. In terms of the diversity of parameters and assumptions used when related to VaR disclosures, Hirtle[8] found the same deficiencies among US bank holding companies: only a few disclosed information for VaR by risk type, backtesting, and stress testing. However, market risk disclosures increased over the period 1994-2004. Yong *et al.*[13] found that a third of the risk disclosures by Asia Pacific banks followed Basel recommendations. Despite almost all banks disclosing information about how they measure, manage and assess performance in managing market risks, only about one third of them reported quantitative information on market risk exposure and performance. Value-at-Risk disclosures were not comparable. A low level of disclosure of other kinds of risks (credit, liquidity, operational) was found too – such as disclosure of detailed policies to mitigate credit and liquidity risk concentrations. Pérignon *et al.*[10] and Pérignon and Smith[11] found a pervasive and persistent overstatement of the VaR results, and over use of historical simulation, leading to a lack of quality information, because of the flaws of this method.[38]

Boussanni *et al.*[5] documented a wide disparity in the level and extent of liquidity risk financial disclosures between European banks. They found that disclosures about contingency planning and internal controls were the least substantive and complete. Further, risk disclosures were basically qualitative.[9] These results were confirmed in studies by Ernst and Young,[18] KPMG,[19,20] and PriceWaterhouseCoopers.[21] But other deficiencies were detected in:

- credit risk disclosures (different time bands used in aging analysis of past due assets; lack of detailed description of the associated collateral); and
- liquidity risk disclosures (generic liquidity risk management statements; misalignment between liquidity risk exposure and qualitative disclosures about management strategies to deal with those exposures; and the absence of sensitivity analysis of the liquidity risk exposure).

The conclusions of these studies all emphasise the poor transparency features found, including unclear communication of the risks being managed,[16] misalignments between key risk topics, imbalances of qualitative and quantitative data, undue reliance on statistical estimates to create a false sense of quantitative precision,[39] and non-compliance with minimum mandatory requirements.[17]

Finance sector preparedness for risk disclosure

Research from throughout the world reveals that managers and banks are ill-prepared to deal appropriately with risk exposures. In the USA a minority of banks used, or planned to use, in-house models of credit risk management.[40] Most senior managers of Nigerian banks were not fully prepared to manage liquidity risk exposure and were not conversant with known methods of measuring and managing a bank's liquidity exposure.[41] Spanish saving banks did not have good knowledge of the operational risk

requirements of the Basel II Accord, they did not have an efficient organisational structure through which to implement an advanced operational risk information system, and their information systems were incapable of responding to Basel II requirements.[42] Despite a good understanding of risk and risk management, staff of banks in the United Arab Emirates still needed to know how to prioritize their main risk efficiently.[43] Generally, Islamic banks are moderately efficient in risk assessment and analysis, risk monitoring and identification.[44] The risk measurement techniques they use predominantly involve maturity matching, gap analysis and credit ratings.[45]

RESEARCH METHOD

Sample

From a population of 298 companies with individual annual reports published in the Portuguese Central bank database as at December 31, 2007 we have drawn a sample of 190 PCIs (Table 2). We excluded all Portuguese financial institutions (99 companies) and nine credit institutions (two financial holding companies with incomplete annual accounts for 2006; four MACBs that adopted IAS/IFRS in 2006; and one investment bank and two financial holdings that adopted PAPBS in 2006).

(Insert Table 2 about here)

Method

We used content analysis to quantify the risk-related quantitative information and narrative information disclosed in the annual reports. All the items identified as risk disclosures required by IAS 1, IAS 30, IAS 32, IFRS 7 and the third Pillar of the Basel II Accord were included.[46] There were six risk disclosure categories (defined in Appendix A):

- *risk management objectives and policies*: risk identification and definitions, risk management policies, and whether there was a comprehensive risk report;
- *credit risk*: the size of credit risk exposure, size of past due and impaired assets, size of collateral (or other enhancements) held, and credit risk quality.
- *market risk*: market risk exposure, and internal/external risk measurement models.
- *liquidity risk*: liquidity risk exposure, and discussion of funding policies.
- *operational risk*: operational risk exposure and adaptation of information systems to Basel II requirements
- *capital structure and adequacy*: capital structure and amounts of Tier 1, 2 and 3; capital adequacy for the different types of risk exposure and capital ratios; and capital adequacy approaches adopted under Basel II.

Content analysis was conducted in six stages, using a binary coding system. A credit institution was given a score of 1 if the item was reported, and 0 otherwise. Such disclosure scoring is useful in measuring the extent of, and variations in, the reporting practices of companies.[14] We coded information about the location of disclosures in the annual report, narratives, and the information included in graphs and tables. Content analysis of the entire sample was performed by the first author, informed by his prior coding of an initial sample of four annual reports with another (independently operating) coder. An inter-coder reliability test was undertaken[47] to measure the scale of coding errors (Scott's *pi* = 86%). Such a level has been considered "an acceptable level of inter-coder reliability" in analysis of corporate report disclosures.[48]

RESULTS

Accounting and risk management objectives and policies

Table 3 shows that PCIs with the lowest frequencies of narrative disclosures about risk-related information are those in which Portuguese accounting rules were adopted (that is, the MACBs). These results corroborate the view that the adoption of IAS/IFRS has brought a greater amount of risk-related disclosure.[14,17] However, the location of these disclosures is not uniform. Other commercial and investment banks and CFIs usually discuss risk in specific sections of the annual report. But, financial holding companies and other entities have shown lower levels. The information is dispersed throughout the annual report, impairing understandability. Similar results were found in prior research[14,16] for the periods before and after the adoption of IFRS 7.[19,21]

(Insert Table 3 about here)

Another surprising result is the low frequency of disclosure of risk management policies and control structure in financial holding companies. However, extended disclosures were made at a consolidated level.

Of the PCIs that adopted IAS/IFRS in their individual annual reports, the highest level of disclosure was by the other commercial and investment banks, and CFIs. But, the quality of risk reporting practices varied widely. At one extreme, two commercial banks provided comprehensive risk reports. These contained key risks and their definition, the description of the overall control structure by each risk factor, the risk management policies followed, the risk measurement models used to assess each risk factor, and a discussion of some strategic objectives. At the other extreme, several entities expressed their risk exposures without further explanation — they only provided risk definitions, or only detailed the overall control structure. Moreover, there was a lack of clarity in risk management statements, consistent with the findings of KPMG[19], PriceWaterhouseCoopers[21], and Woods and Marginson.[16] This made it difficult to assess companies' risk appetite appropriately. There was no clear identification of key

risks. Some companies used financial jargon without defining what was meant by terms such as Value-at-Risk, stress test, back test, and sensitivity analysis. Provision of such definitions would have helped readers to understand the risk information disclosed.

Credit risk

Table 4 (Panel A) shows that, except for financial holding companies, mandatory information required by IAS 30 and IAS 32 was followed by all PCIs. They disclosed information about the size of credit risk exposure, and past due and impaired financial assets, thereby helping to assure comparability and confirming research by PriceWaterhouseCoopers.[21] However, understandability is undermined because narrative explanations of numerical information were lower than expected.

(Insert Table 4 about here)

Despite assurance of comparability on these two aspects, there are differences in the details itemised for credit risk exposure and past due impaired financial assets. Disclosure of risk concentrations (by industry sector) had lower levels of disclosure. The information most disclosed was aggregated information. Such information is less costly to produce than non-aggregated information and the proprietary costs are lower. Because of their inherent proprietary nature, and the pre-GFC period of analysis, the size of collateral and the discussion of credit risk exposure show lower and different levels of disclosure. There were no disclosures for renegotiated assets. On the other hand, since this was voluntary information demanded by IFRS 7 only, another possible explanation for the lower levels of disclosure is the economic rationale that banks are "typically cautious to go beyond minimal disclosure requirements".[32] The disclosure level by companies adopting Portuguese accounting rules (the MACBs) are lower

compared to those adopting IAS/IFRS. Despite this difference, the disclosures are consistent and, therefore comparable.

Among adopters of IAS/IFRS, there were higher levels of disclosure in other commercial and investment banks and CFIs, than in other entities. For commercial banks and CFIs, we also found higher levels of explanation of risk exposure in narratives, past due/impaired assets, and credit risk quality[49] — indeed, higher than those found by Bischof[17] in European commercial banks after the adoption of IFRS 7. Moreover, the disclosures were close to IFRS 7 requirements, except for the size of collateral held and renegotiated assets. They also seemed to be preparing their credit risk information under Basel II rules, since credit risk information by type of credit exposure, geographic distribution, industry type, and residual contractual maturity, was at high levels.

Transparency flaws in credit risk disclosures are shown in Table 4 (Panel B). PCIs that followed IAS/IFRS were not consistent in the amounts of credit risk exposure disclosed by industry sector and by maturing assets. Some PCIs indicated explicitly that the amounts disclosed included maturing and past due assets, whereas others indicated explicitly that the amounts disclosed only included maturing assets. In the worst case, no explicit information was provided, making it difficult for a reader to understand what amount was disclosed.

Table 4 (Panel B) also shows differences in the maturity/aged time bands used to disclose the amounts of credit risk exposure by maturing assets, and past due assets, respectively. The differences are in the maximum range in the qualitative groups, and different time bands for the prior/no prior year figures. The same problems were detected in studies after the adoption of IFRS 7.[19-21]

Market risk

Table 5 (Panel A) shows a much lower level of market risk disclosure by companies that adopted the Portuguese accounting rules (the MACBs) than those that had adopted IAS/IFRS.

(Insert Table 5 about here)

Among those companies that adopted IAS/IFRS, banks show the highest levels of disclosure compared to CFIs, financial holding companies and other entities. Not all of them disclosed information about market risk exposures for foreign exchange and interest rate risk. The results diverge between frequencies on the repricing gap presentation and the use of maturity dates/repricing gap to measure interest rate risk exposure. Thus, some PCIs do not disclose the amount of their exposure. Moreover, Table 5 (Panel A, and B) shows lower frequencies on monetary results for VaR and sensitivity analysis compared to the use of these two techniques. This is consistent with Bischof[17] and Yong *et al.*[13], but only for other commercial and investment banks. Although our results are a little higher than those found in their studies, they do not confirm findings of KPMG[19,20] or PriceWaterhouseCoopers[21](where all banks had disclosed VaR results). A plausible explanation is that the VaR disclosures are costly to prepare, complex to interpret, and inherently unreliable, resulting in non-disclosure policies.[6]

On the other hand, VaR information is proprietary by nature. This prompts its withdrawal from annual reports to avoid gambling with a bank's reputation.[10,32] Inconsistencies were detected for commercial and investment banks: these were related to VaR, stress tests, back tests, and sensitivity analysis, consistent with Bischof[17], Ernst and Young[18], KPMG[19,20], PriceWaterhouseCoopers[21], Yong *et al.*[13], Woods and Marginson[16], and Woods *et al.*[14,15]. Stress tests and backtests are essential to assess the reliability of VaR monetary values, and to help define risk profile more precisely.[50]

Only two commercial banks with comprehensive risk reports disclosed results of stress tests and backtests.

Another interesting result is the prevalence of historical simulation to measure VaR, which as Pritsker[38] notes "respond sluggishly to changes in conditional volatility, and respond to large price movements asymmetrically (…). Because of these deficiencies, errors in risk estimates accumulate through time and sometimes become very large (…) [such that] traditional backtests have little power to detect them." VaR and sensitivity results are also not comparable. Panel B of Table 5 shows differences in assumptions and parameters used (relating to methods, confidence level, holding periods, period of analysis, basis point value, and period of impact). In some cases no information is provided.

Of the other commercial and investment banks that presented a repricing gap table, we detected different maturity/repricing time bands (Table 5, Panel B). This impairs comparability across companies. The use of a repricing gap table is a naïve way of presenting interest rate risk exposure, unless accompanied by sensitivity results showing how a positive or negative parallel shift in the interest rate curve would affect the gap. Only one commercial bank with a comprehensive risk report disclosed this kind of information. The lack of objectivity diminished the understandability of risk information.

Liquidity risk

Table 6 (Panel A) shows that liquidity risk disclosures by companies adopting Portuguese accounting rules (MACBs) are lower (in level and quality) than for those adopting IAS/IFRS. Those companies did not disclose a liquidity gap analysis table. Instead, they presented a maturity analysis for current assets and liabilities, but separately.

(Insert Table 6 about here)

In respect of the PCIs that adopted IAS/IFRS, Table 6 (Panel A) demonstrates non-compliance with minimum mandatory requirements established by IAS 30 and IAS 32. A sub-optimal level of liquidity risk disclosure was found also by Yong *et al.*[13], and PriceWaterhouseCoopers.[21] This was characterised by low levels of discussion about detailed policies for mitigating liquidity risk or specific narratives on how liquidity risk is managed. Only half of the commercial and investment banks and CFIs disclosed their liquidity risk exposure using a maturity analysis table. Further, not all of them clearly stated the maturity concept used to build the gap analysis (Table 6, Panel B). There is poor alignment between numerical and narrative disclosures, consistent with the findings of Boussanni *et al.*[5] (2008), Yong *et al.*,[13] KPMG,[19,20] and PriceWaterhouseCoopers.[21] Few companies clearly discussed their funding policies and any alignment with their liquidity risk exposure. Users would be forced into considerable effort to link exposures to funding policies and to determine the possible reasons behind the adoption of those policies.

The other PCIs either do not disclose any information, or disclose their maturity analysis separately (for specific items such as loans and advances, resources, derivatives, subordinated loans, investments held to maturity). Among the PCIs that have disclosed a liquidity gap analysis, the information disclosed is inconsistent, because maturity time bands differ (Table 6, Panel B), consistent with KPMG.[19,20] These practices make it difficult for users to assess banks' liquidity risk exposure appropriately, or build a liquidity gap table. Consequently, comparability across companies is rendered difficult.

Operational risk

Table 7 shows that only one commercial bank disclosed an amount for operational risk exposure. Only one commercial bank completed the Basel II adaptation process. Very low frequencies of operational risk management disclosures and risk exposures were disclosed by MACBs compared to the rest of the PCIs surveyed. Other commercial and investment banks, and CFIs made more disclosures of risk management policies and operational control structures, and operational risk exposures. It seems that these PCIs are still adapting to Basel II requirements. Therefore, they are more prone to address disclosure requirements regarding definitions and risk management policies in a self-contained section of the management report and notes. Moreover, we found disclosures scattered throughout the management reports about the priorities of institutions in implementing new information systems, in training workers, and in restructuring organizations. Because 2006 was a complex period of adaptation, and because this is voluntary information, it is justifiable that, for reasons of caution and reputation damage, those disclosures are merely narrative, generic and imprecise.

(Insert Table 7 about here)

Capital structure and adequacy

Table 8 (Panel A) shows the highest level of disclosure for capital structure and adequacy was by banks (MACBs, other commercial and investment banks). One plausible reason for this might be the assumption that higher levels of public visibility will increase banks' needs to legitimise themselves to their customers, to inform them of their ability to avoid a banking crisis, and to protect depositors. These reasons have been used to explain the objectives of capital adequacy requirements.[51]

(Insert Table 8 about here)

However, few of these PCIs have included narrative disclosures to critically discuss the amounts calculated for total eligible capital value. As a consequence, understandability is impaired.

Six banks (other commercial/investment banks) disclosed the approaches they followed to assess capital adequacy, capital requirements for credit, market and operational risk, and total capital ratio according to Basel II (Table 8, Panel A). Some signalled the adoption of the most advanced approaches in the near future – IRB for credit risk, internal models for market risk, and AMA for operational risk[52] (Table 8, Panel B) but, using different disclosure patterns. Again, this is justifiable for reasons of caution and reputation damage, because PCIs were in a period of adaptation to a new frame of reference that was not yet mandatory (Pillar III of Basel II, IFRS 7 and IAS 1 amendments).

CONCLUSIONS

When compared to Portuguese accounting rules, the adoption of IAS/IFRS has brought a greater flow of risk-related information. This was despite the risk information disclosed using Portuguese accounting standards being more comparable. Consistent with previous studies,[21] the greater flow of risk-related information did not assure transparency across the Portuguese banking sector.

Portugal is classified as a "Latin country", and the Portuguese banking system has several characteristic features (such as its prominent visibility as a consequence of the greater number of branches). We found that the two commercial banks with better risk reporting performance had the highest number of branches, and are listed in a regulated market (Euronext Lisbon), and in a foreign stock exchange market. However, among the PCIs with a lower number of branches (CFIs and other entities) we found that the transparency flaws were more intense compared to commercial banks and

previous literature. Among financial holding companies there were low levels of disclosure because they opted to make extended disclosures at a consolidated level. Risk reporting practices among investment banks are similar to those of commercial banks. But, this is not explained by public visibility. Their number of branches is much lower. However, most of the investment and commercial banks belong to the same financial groups, which may explain that similarity.

Lack of transparency was found in the minimum binding disclosure requirements, and also in voluntary disclosures (for example, in respect of operational risk, capital structure and capital adequacy). These sub-optimal levels of usefulness impacted negatively on the effectiveness of market discipline in several ways. Assuming usefulness to investors is a direct function of attaining the qualitative characteristics of relevance, reliability, understandability, and comparability, our findings for PCIs that have adopted IAS/IFRS confirm previous research.[4,5,7-21]

As in other countries, transparency across companies was impaired by comparability difficulties. Breaches of the other three desired qualitative characteristics of financial statements were found too. This reduces the usefulness of risk-related information in decision making, because users face considerable difficulty in capturing the appropriate risk profile of a credit institution and in comparing that profile across the sector.

The potential understandability of narratives was poor. This was compounded by a lack of narratives to explain numerical disclosures. The result is a potential increase in the probability of multiple interpretations by readers, arising from the imprecision, vagueness and the misleading nature of the statements made. Numerical risk disclosures were useful, but not fully transparent. They lacked reliability (for example, VaR statistics) because no stress tests or back tests were made to assure the reliability of

those statistics under different scenarios or because non-parametric methods of measurement were used. And they lacked comparability across companies too, because the disclosure practices differed. Further, they are likely not to be understood fully by users, because they are not aligned with narrative explanations. Users do not know if the information relates to bad news or good news, because usually, no further information is given. Where given, it is dispersed throughout the annual report.

Considerable sub-optimal levels of mandatory disclosures of market risk, liquidity risk, and risk management objectives and policies were found among PCIs. Similar sub-optimal levels were found in prior research *before* the adoption of high quality standards such as IFRS 7,[5,8,10,13-16] and by banks in Anglo-Saxon countries. Credit risk disclosures presented optimal levels of mandatory compliance, similar to the findings of Frolov[7] and KPMG.[19,20]

Although we did not analyse risk disclosures after the adoption of IFRS 7, Bischof,[17] Ernst and Young,[18] KPMG,[19,20] and PriceWaterhouseCoopers[21]confirm that such adoption does not guarantee transparency, or assure the effectiveness of market discipline. Potential reasons might be that IAS/IFRS are not aligned with the way financial companies manage risk, and they are not bank-oriented standards.[21] IAS/IFRS focus only on financial risk and ignore that banks face other kinds of risks, such as operational risks. This mis-alignment can culminate in the dispersal of risk reporting practices throughout an annual report, rendering them not comparable, and lacking in precision.[14-16,19,21]

Furthermore, the principles-based nature of IAS implies the use of professional judgement leading to non-comparable reporting practices. An obvious conclusion seems to be that institutions with risk-related disclosures should work together to require a consistent disclosure process.

Recent studies confirm that transparency flaws have been detected even after the adoption of IFRS 7 and Basel II, Pillar III. Consequently, the argument that "the extent to which accounting rules influence [accounting quality among non-finance companies] (...) depends on how well these rules are enforced"[53] is important and valid for companies in the banking sector. Portuguese supervisory and regulatory entities (such as the Portuguese Central Bank and Portuguese Stock Exchange Committee) should promote enforcement mechanisms to assure compliance with minimum disclosure requirements. This would grant a "socially desirable" flow of information, and culminate in higher levels and more effective market discipline. If better risk reporting is mandated, this will encourage companies to implement better risk management. The better risk management systems are, the better risk reporting seems likely to be.[54]

Our findings should be assessed with regard for several limitations. First, the content analysis method (used widely in reported research across many disciplines) does not allow readily for in-depth qualitative analysis of disclosures. Second, the potential for information about risk to be provided in media other than annual reports (such as interim reports, press-releases, web sites, analyst meetings or prospectuses) should not be overlooked. Third, the data analysed pre-date the operationalization of IFRS 7 and the Basel II Accord, in January, 2007. Future research could investigate factors likely to lead to better risk-related disclosures (such as visibility, ownership structure, board of director's membership or other corporate governance structural features). Also, use of 2008 annual reports would help in analysis of whether the same deficiencies persist after the adoption of IFRS 7 and the Basel II Accord.

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(24) Information is *relevant* if it has predictive and confirmatory values. *Reliable* information must be free from material error and bias and faithfully represent reality. Information is *understandable* if complex and relevant matters are not excluded from financial statements because they are too difficult for readers to understand. Therefore, efforts to include definitions, glossaries or other forms of detailed would improve understandability. *Comparability* can be assessed over time or across different companies in terms of relative financial positions, performance, and risk profiles (such as the amount of disclosure, the maturity profile of assets, measurement models, and risk management policies).

(25) The amendment to IAS 1, adopted by Regulation 108/2006 of the European Parliament (concerning the disclosure of information necessary to evaluate an entity's objectives, policies and processes for managing capital), was mandatory only for periods beginning on or after 1 January 2007. Earlier application was encouraged.

(26) In 2006, IAS 32 included disclosure requirements about financial risks. IFRS 7 superseded IAS 30 and amended IAS 32 concerning disclosures of risk-related issues. IFRS 7 relates only to financial risks and requires a deeper level of disclosures in comparison to the previous IAS 30 and IAS 32.

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Table 1: Minimum disclosure requirements before and after the adoption of IFRS 7

Risk Category[a]	Before IFRS 7 adoption (IAS 1, IAS 30 and IAS 32)	After IFRS 7 adoption (IAS 1, IFRS 7)
Generic[b]	- Basis of preparation of financial statements; - Specific accounting policies used (such as the basis of measurement). - Description of financial risk management objectives and policies.	- Basis of preparation of financial statements; - Specific accounting policies used (such as the basis of measurement). - Description of financial risk management objectives and policies.
Credit	- Details of movements in any allowance for impairment losses and advances during the period; - Aggregate amount of impairment losses; - Maximum credit risk exposures; - Potential risk concentrations (e.g. by industry type).	- Total credit risk exposure and quality; - Analysis of aged past due non-impaired assets; - Analysis of individual impaired financial assets; - Collateral held or repossessed; - Carrying amounts of renegotiated assets.
Market[c]	- Interest risk exposure detailed by contractual repricing or maturity dates; - Nature and extent of off-balance sheet instruments exposed to interest rate risk; - Repricing gap analysis; - Sensitivity analysis of how risk exposures are managed and controlled.	- Detailed information about VaR models (assumptions, parameters and limitations); - Sensitivity analysis for each type of market risk . Description of the method, assumptions and parameters used.
Liquidity	- Liquidity gap analysis of assets and liabilities according to their maturity.	- Maturity analysis for financial liabilities; - Qualitative disclosures about how liquidity risk is managed.
Capital Structure and Adequacy		- Description of what is managed as capital; - Nature of capital requirements imposed externally; - Description of how capital requirements are incorporated into management of capital; - Description of how managing capital objectives being met.

[a] Disclosures for operational risks are voluntary. IAS/IFRS only regulate financial risks. There are no specific disclosure requirements for operational risks.

[b] Article 66 of the Portuguese Companies Code requires companies to disclose in the management report their financial risk exposures and financial risk management objectives and policies. Therefore, if specific risk-related disclosures were found in the management report, these disclosures were considered mandatory.

[c] Market risks includes interest rate risk, foreign exchange risk, equity risk and commodities risk.

Table 2: Portuguese Credit Institutions in the sample

	Number of companies
Commercial Banks	
- Mutual Agricultural Credit Banks [MACBs]	101
- Other Commercial	22
Investment Banks	18
Credit Financial Institutions [CFIs]	15
Financial Holding Companies	21
Other Entities	13
Total	190

The Portuguese finance sector is composed of credit institutions and financial companies. Decree-Law 298/92 defines credit institutions as "companies whose business is to receive deposits or other repayable funds from the public and to grant credits for its own accounts" (Article 2). Financial companies are "companies that are not credit institutions" (Article 5). This study deals only with risk-related reporting practices of credit institutions.

In recognition of the different business goals of banks, we categorised them as *commercial* banks and *investment* banks.[17] Commercial banks deal with checking, savings, and money market accounts. They accept deposits and perform lending activities. Investment banks raise capital, trade securities and manage corporate mergers and acquisitions. *Commercial* banks were divided into *Mutual Agricultural Credit Banks [MACBs]*, and *Other banks*. Only MACBs have adopted the PAPBS in their individual accounts according to Notice 1/2005 of the Portuguese Central Bank. All the other companies have adopted adjusted IAS/IFRS rules.

Credit Financial Institutions are regulated by Decree-Law 186/2002 and are very similar to banks. They focus on lending activities, but cannot receive deposits from the public.

Financial holding companies are financial companies registered by the Portuguese Central Bank. They hold and control equity shares of PCIs included in the sample. Notice 1/2005 of the Portuguese Central Bank also applies to financial holding companies whose subsidiaries are credit or investment companies. To be considered a financial holding company their subsidiaries should represent at least 50% of consolidated assets. However, the Portuguese Central Bank can propose other criteria.

Other entities deal with leasing, factoring, and mutual guarantee activities; investment companies; and credit-purchase financing companies not classified as banks or credit financial institutions.

Table 3: Portuguese Credit Institutions with narrative disclosures about risk-related information in risk management sections

	Banks					
	MACBs	Other Commercial	Investment	CFIs	Financial Holdings	Other Entities
	%	%	%	%	%	%
Risks identified						
Key	0	23	17	27	5	8
Generic	0	73	83	67	43	38
Definitions						
Risks	0	82	78	67	38	38
Other	0	27	17	0	5	0
Risk management policies followed						
Credit risk	0	91	89	73	19	23
Market risk	0	82	78	27	24	0
Liquidity risk	0	82	67	33	19	8
Operational risk	0	50	44	47	10	15
Overall control structure						
Credit risk	0	73	78	67	14	38
Market risk	0	68	83	20	14	15
Liquidity risk	1	59	67	27	10	15
Operational risk	0	27	44	33	10	15
Risk management sections						
Management report	0	64	44	27	33	23
Notes specific	0	91	100	80	52	54

Table 4: Portuguese Credit Institutions with credit risk disclosures in annual reports

Panel A: Frequent credit risk reporting pratices

	Banks					
	MACBs	Other Commercial	Investment	CFIs	Financial Holdings	Other Entities
	%	%	%	%	%	%
Size of credit risk exposure	99	100	100	100	29	100
Narrative explanations of numerical disclosures	1	59	56	80	0	46
Size of past due and impaired assets	100	100	100	100	33	92
Narrative explanations of numerical disclosures	0	27	22	33	0	31
Size of collateral (other enhancements held)	98	41	39	27	5	8
Credit risk quality						
Discussion of credit risk indicators	60	82	28	53	29	8
Summary of internal rating systems	2	73	39	67	19	8

Panel B: Comparability problems in credit risk reporting practices

	Banks					
	MACBs	Other Commercial	Investment	CFIs	Financial Holdings	Other Entities
	%	%	%	%	%	%
Size of credit risk exposure						
By industry sector (maturing and past due assets)	0	27	17	7	0	8
By maturing assets						
Prior year groups (up to 1 year)	0	5	0	0	0	15
Prior year groups (up to 2 years)	0	5	0	0	0	0
Prior year groups (up to 3 years)	0	0	6	7	0	0
Prior year groups (up to 5 years)	1	9	22	33	0	15
Prior year groups, with qualitative groups	97	41	22	20	0	46
No prior year groups (up to 5 years)	0	9	0	7	0	0
No prior year groups, with qualitative groups	0	14	17	0	0	0
Aged past due assets (time bands)						
Prior year groups, only	11	32	33	27	0	8
Prior year groups (up to 1 year)	0	9	6	0	0	15
Prior year groups (up to 3 years)	0	36	22	20	0	8
Prior year groups (up to 4 years)	3	0	0	7	0	0
Prior year groups (up to 5 years)	0	5	11	13	0	8

Table 5: Portuguese Credit Institutions with market risk disclosures in annual reports

Panel A: Frequent market risk reporting practices						
	Banks					
	MACBs	Other Commercial	Investment	CFIs	Financial Holdings	Other Entities
	%	%	%	%	%	%
Market risk exposure						
Foreign exchange risk exposure	0	41	72	0	5	15
Interest rate risk exposure	1	77	83	47	24	31
Measured by maturity dates/repricing gap	0	50	56	13	5	31
Presentation of a repricing gap table	0	36	33	13	0	23
Value-at Risk monetary results	0	32	33	0	5	0
Sensitivity analysis monetary results	0	27	6	7	0	0

Panel B: Comparability problems in market risk reporting practices						
	Banks					
	MACBs	Other Commercial	Investment	CFIs	Financial Holdings	Other Entities
	%	%	%	%	%	%
Maturity/repricing time bands						
Prior year figures, only	0	0	0	13	0	0
Prior year figures (up to 2 years)	0	0	6	0	0	0
Prior year figures (up to 3 years)	0	5	0	0	0	0
Prior year figures (up to 5 years)	0	5	17	0	0	0
Prior year figures (up to 7 years)	0	5	0	0	0	0
Prior year figures (up to 20 years)	0	5	0	0	0	0
Prior year figures, with qualitative groups	0	18	6	0	0	23
No prior year figures (up to 15 years)	0	5	0	0	0	0
Value-at-Risk assumptions						
The use of Value-at-Risk	0	45	72	0	10	0
Methodology used - riskmetrics	0	9	17	0	0	0
Methodology used - historical simulation	0	18	28	0	10	0
Methodology used - montecarlo simulation	0	9	6	0	0	0
Confidence level/Holding period	0	0	0	0	0	0
99% / 1 day	0	9	6	0	5	0
99% / 10 days	0	32	17	0	5	0
99% / 22 days	0	0	6	0	0	0
99% / 90 days	0	0	6	0	0	0
99% / 2 weeks	0	9	6	0	0	0
95% / …	0	5	0	0	0	0
The use of stress tests	0	32	33	0	5	0
The use of backtests	0	27	44	0	10	0
Sensitivity analysis assumptions						
The use of sensitivity analysis	0	45	50	7	19	0
Periodicity of analysis - monthly	0	9	11	0	0	0
Periodicity of analysis - quaterly	0	5	0	0	0	0
Period of impact (12 months, only)	0	5	17	7	0	0
Basis point value used - 100 bvp	0	9	22	0	0	0
Basis point value used - 200 bvp	0	23	0	7	5	0

Table 6: Portuguese Credit Institutions with liquidity risk disclosures in annual reports

Panel A: Frequent liquidity risk reporting practices

	Banks					
	MACBs	Other Commercial	Investment	CFIs	Financial Holdings	Other Entities
	%	%	%	%	%	%
Liquidity gap analysis table	0	55	67	47	10	31
Discussion of values	0	9	0	0	0	0
Other isolated maturity groups	99	32	6	27	0	15
Clear alignement between liquidity gap and funding policies	0	0	6	0	0	0
Clear discussion of funding policies	0	32	11	7	5	0

Panel B: Comparability problems in liquidity risk reporting practices

	Banks					
	MACBs	Other Commercial	Investment	CFIs	Financial Holdings	Other Entities
	%	%	%	%	%	%
Liquidity gap analysis table						
Maturity concept clearly stated	99	41	61	40	5	15
Maturity time bands						
Prior year figures (up to 1 year)	0	5	0	0	0	0
Prior year figures (up to 5 years)	0	14	6	20	5	8
Prior year figures, with qualitative groups	0	1	2	3	4	5
Prior year figures (up to 10 years)	0	5	0	0	0	0
No prior year figures (up to 5 years)	0	5	0	0	0	0
Other isolated maturity time bands						
Prior year figures (up to 1 year)	0	9	0	7	0	8
Prior year figures (up to 3 years)	0	0	6	0	0	0
Prior year figures (up to 5 years)	0	23	17	0	0	8
Prior year figures, with qualitative groups	0	18	17	13	5	15
No prior year figures (up to 5 years)	0	14	11	0	0	0

Table 7: Portuguese Credit Institutions with operational risk disclosures in annual reports

Frequent operational risk reporting practices						
	Banks					
	MACBs	Other Commercial	Investment	CFIs	Financial Holdings	Other Entities
	%	%	%	%	%	%
Operational risk exposure	0	5	0	0	0	0
Clear statement of adaptation to Basel II						
Adaptation of information systems	3	41	28	20	19	8
Adaptation completed	0	5	0	0	0	0

Table 8: Portuguese Credit Institutions with capital structure and adequacy disclosures in annual reports

Panel A: Capital struture and adequacy reporting practices						
	Banks					
	MACBs	Other Commercial	Investment	CFIs	Financial Holdings	Other Entities
	%	%	%	%	%	%
Capital structure						
Accounting structure	100	100	100	100	100	100
Amount of Tier 1	2	14	0	0	0	0
Amount of Tier 2	5	27	0	7	10	0
Amount of Tier 3	0	0	0	0	5	0
Total elegible capital value	48	41	6	13	10	0
Discussion about its composition	6	23	0	7	10	0
Capital adequacy						
Discussion of capital adequacy approach	0	5	6	0	0	0
Capital requirements for credit risk	0	9	6	0	0	0
Capital requirements for market risk	0	5	0	0	0	0
Capital requirements for operational risk	0	5	0	0	0	0
Total capital ratio	63	77	67	33	43	8
Tier 1 ratio	11	41	28	7	29	0
Tier 2 ratio	0	9	0	0	0	0
Total capital ratio according to Basel II	0	9	6	0	5	0

Panel B: Adoption of capital adequacy approches proposed by Basel II requirements						
	Banks					
	MACBs	Other Commercial	Investment	CFIs	Financial Holdings	Other Entities
	%	%	%	%	%	%
Capital adequacy approaches to be adopted						
Credit risk						
Standard approach (SA)	1	23	11	0	10	8
Internal ratings based approach (IRB)	0	27	17	20	10	0
Market risk						
Standard approach	1	0	6	0	0	8
Internal models approach	0	14	0	13	0	0
Operational risk						
Basic indicator approach (BIA)	1	14	6	0	0	0
Standard approach (SA)	0	23	6	0	0	8
Advanced measurement approach (AMA)	0	18	6	13	10	0

Appendix A: Definitions of risk-related categories

General information: disclosures of risk definitions, risk management policies followed and the existence of a comprehensive risk report.

Credit risk: the potential that a bank borrower or counterparty will fail to meet its obligations in accordance with agreed terms.

Market risk: the risk of losses in on-balance sheet and off-balance sheet positions arising from movements in market prices. The risks subject to this requirement are: the risks pertaining to *interest rate related instruments* and *equities* in the trading book; *foreign exchange risk* and *commodities risk* throughout the bank.

Liquidity risk: the risk that the firm will not be able to efficiently meet both expected and unexpected current and future cash flow and collateral needs without affecting either daily operations or the financial condition of the firm.

Operational risk: the risk of loss resulting from inadequate or failed internal processes, people and systems or from external events.

Capital structure and adequacy: a key principle in bank supervision used as a measure of banks' financial strength and stability.